

Patent Claims:

1. Method of producing a finely divided dispersion of solids having a mean particle size of 10 nm to 10 µm,
5 in which at least two flows of a predispersion are sprayed by means of pumps, preferably high-pressure pumps, through one nozzle each into a grinding chamber enclosed by a reactor housing onto a collision point, characterized in that the grinding
10 chamber is flooded with the predispersion and the finally divided dispersion is removed from the grinding chamber by the overpressure of the predispersion continuing to flow into the grinding chamber.
- 15 2. Method according to Claim 1, characterized in that the liquid phase of the predispersion is aqueous.
- 20 3. Method according to Claims 1 or 2, characterized in that the predispersion contains dispersing agents and/or surfactants.
- 25 4. Method according to Claims 1 to 3, characterized in that the proportion of solids in the predispersion is between 1 and 70 wt.%.
- 30 5. Method according to Claims 1 to 4, characterized in that the predispersion is sprayed into the grinding chamber at a pressure of at least 50 bar.

6. Method according to Claims 1 to 5, characterized in that the dispersion is cooled after leaving the grinding chamber.
- 5 7. Method according to Claims 1 to 6, characterized in that the finely divided dispersion obtained after leaving the grinding chamber is sprayed into the grinding chamber several times.
- 10 8. Method according to Claims 1 to 7, characterized in that organic particles, inorganic particles and/or mixtures thereof are used as solids.
9. Device for performing the method in accordance with Claims 1 to 8, characterized in that a predispersion is sprayed by means of at least two nozzles each having an associated pump and feeding into a grinding chamber surrounded by a reactor housing onto a common collision point and the dispersion leaves the grinding chamber through an opening in the reactor housing.
- 15 10. Device according to Claim 9, characterized in that the nozzles can be aligned with a common collision point.
- 20 11. Device according to Claims 9 or 10, characterized in that the nozzles are composed of oxides, carbides, nitrides, diamond or mixtures thereof.

12. Device according to Claims 9 to 11, characterized in that the nozzles have bores having a diameter of 0.5 - 2000 µm.

5 13. Device according to Claims 9 to 12, characterized in that the nozzles are identical in their chemical composition with the substance to be dispersed or become identical as a result of chemical reaction under the dispersion conditions.

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14. Device according to Claims 9 to 13, characterized in that the collision point is surrounded by a material that is disposed in such a way that, in the event of a misalignment of the nozzles, the predispersing jet collides with said material.

15 15. Device according to Claims 9 to 14, characterized in that the material surrounding the collision point is identical in its chemical composition to the substance to be dispersed or becomes identical as a result of chemical reaction under the dispersion conditions.

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